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MCO 4790.1C
LPC-2

MARINE CORPS ORDER 4790.1C

From: Commandant of the Marine Corps
To: Distribution List

Subj: MARINE CORPS MAINTENANCE POLICY (MCMP)

Ref: (a) MCO 4000.57
(b) Logistics Modernization Solution Initiating Directive
(SID) of 23 Jan 06
(c) MCO P4790.2
(d) MCO 4790.21
(e) MCO P4790.10B
(f) DoD 5000.2
(g) MCO 5100.29A
(h) MCO P5000.18

1. Situation. The Marine Corps has traditionally performed five echelons of maintenance (EOM) on ground equipment and defined those EOM according to tooling/test measurement and diagnostic equipment (TMDE), facility capabilities, and training of personnel. Leveraging a more effective approach to ground equipment maintenance, the Marine Corps is transitioning to three levels of maintenance vice five echelons. To that end, the Marine Corps has embraced Logistics Modernization to enhance lethality and operational reach of the Marine Air-Ground Task Force (MAGTF) through greatly improved and more effective logistics chain support to the war fighter. The realignment of maintenance initiative requires new organization for maintenance, processes, and assignment of responsibilities to facilitate ground equipment maintenance management in the Marine Corps.

2. Cancellation. MCO P4790.1B and MARADMIN 581/03

3. Mission. This order provides policy for the organization, management, and integration of ground equipment maintenance capabilities to support MAGTF operations across all phases of total life cycle management (TLCM) per reference (a), and defines the three levels of maintenance: Operator/crew, field and sustainment.

4. Execution

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a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The purpose of this order is to clearly articulate maintenance policy and to align Marine Corps maintenance with the three levels of maintenance concept. The required end-state is the implementation of maintenance processes and assignment of resources by logisticians focused on modernizing Marine Corps maintenance and maintenance management per reference (b). Key elements of the intent are:

(a) Define roles and responsibilities to ensure effective planning and use of personnel, material, facilities, and funding as applied to the ground equipment maintenance process.

(b) Define requirements for the organization, employment, and performance measurement of ground equipment maintenance capabilities to optimally support MAGTF operations.

(c) Enable commanders to prioritize resources to better accomplish the maintenance mission and thereby improve readiness.

(d) Develop metrics/performance measurement standards to assess, improve and balance maintenance capability performance in support of mission accomplishment.

(e) Improve planning, organization, direction and coordination of maintenance activities.

(f) Plan, program, and budget financial resources in the execution of MCMP activities.

(g) Support TLMC.

(h) Document requirements, actions and expenditures of resources associated to maintenance support.

(i) Define, acquire, employ and maintain Automated Information Systems (AIS) which enable and support the Marine Corps Maintenance Policy (MCMP).

(2) Concept of Operations. The Marine Corps Logistics Command (MCLC) is the senior agency responsible to execute Maintenance Management for the enterprise. Roles and responsibilities for Marine Corps agencies listed herein provide

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an integrated MAGTF approach that focuses on people, processes, and technology modernization to accomplish and manage the maintenance of ground equipment within a three-level maintenance concept.

(a) Maintenance. Maintenance is that action taken on physical assets to ensure they continue to perform their intended function in their planned operating environment/context. Maintenance is comprised of two elements: engineering and production.

1 Maintenance Engineering. Maintenance engineering is the application of engineering skills and techniques to influence design, development, selection and logistics support to maximize operational availability and minimize the maintenance impact. Maintenance engineering is initiated during the requirements phase and occurs throughout equipment's life-cycle to develop maintenance concepts, establish criteria for equipment maintenance, and prepare the technical requirements used in the supply and distribution systems to support items of equipment. Maintenance engineering bases its concepts and plans on consistent, repeatable processes and past equipment history. These processes and information are used to identify requirements to modify equipment. Maintenance engineering under MCMP is incorporated into the overall Marine Corps Single Acquisition Management Plan (MC-SAMP) via the Maintenance Planning Process (MPP) and validated within the Independent Logistics Assessment (ILA) effort. Maintenance engineering integrates maintenance with other logistics capability considerations (e.g., facilities, personnel, training, and technical data) to estimate equipment life-cycle support.

2 Maintenance Production. Maintenance production is the physical accomplishment of maintenance functions, which commences with the delivery of equipment to the user and continues until it is removed from the inventory. Maintenance production includes but is not limited to:

Preventive Maintenance (PM) -- Performed at all levels

Corrective Maintenance (CM) -- Performed at all levels

Overhaul -- Performed at the sustainment level

Rebuild -- Performed at the sustainment level

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142 Modification -- Performed at all levels

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144 Calibration -- Performed at the field and sustainment level

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146 Modernization -- Performed at all levels

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148 Conversion -- Performed at the sustainment level

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150 3 Three Levels of Maintenance (LOM). The Marine
151 Corps has realigned its maintenance capabilities to three LOM:
152 operator/crew, field and sustainment.

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154 a Operator/Crew LOM. Operator/crew LOM
155 sustains equipment in a mission-capable status and is both
156 preventive and corrective in nature. Operator/crew LOM includes
157 expeditious assessment and maintenance conducted under
158 battlefield conditions. Operator/crew LOM normally entails
159 inventory, cleaning, modifying, inspecting, preserving,
160 lubricating, adjusting and testing as well as replacing parts
161 and components per Operator/Crew Individual Training Standards
162 (ITS) and/or Training and Readiness Events (TRE) and technical
163 publications.

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165 b Field LOM. Field LOM sustains or returns
166 equipment to a mission-capable status and is both preventive and
167 corrective in nature. Field LOM actions include inspection,
168 diagnosis (in-depth), modification, replacement, adjustment, and
169 limited repair or evacuation/disposal of principal end-items and
170 their selected reparables and components/sub-components. Field
171 LOM includes use, calibration and repair of TMDE as well as
172 fabrication, precision machining, and various methods of
173 welding. Field LOM is performed by specially-trained mechanics
174 and technicians within the MAGTF per the ITS and/or TRE and
175 technical publications. Field LOM also includes Battlefield
176 Damage Assessment and Repair tasks. Field LOM technicians are
177 also authorized to perform operator/crew LOM.

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179 c Sustainment LOM. Sustainment LOM entails
180 major repairs, overhaul, or complete rebuild of principal end-
181 items, assemblies, subassemblies, or parts, to include
182 manufacturing or fabrication of parts. It includes conducting
183 required modifications, testing, calibrating, and reclaiming and
184 conversion to sustain equipment throughout its life-cycle, or
185 extend equipment service life. Marine Corps multi-commodity
186 maintenance centers, other service depots, commercial industrial
187 facilities, original equipment manufacturers or a combination
188 thereof may perform sustainment LOM. Sustainment LOM supports

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lower level maintenance by providing overflow and on-site maintenance services and technical assistance when required. Sustainment LOM is focused on repairing and rebuilding components, assemblies, modules and end-items in support of the supply system. Sustainment LOM is characterized as "off system" and "repair rear". The intent of this level is to perform repairs on all supported items to one standard that provides a consistent and measurable level of reliability. Sustainment LOM technicians are also authorized to perform field and operator/crew LOM.

4 Maintenance Authority. Maintenance authority is documented in applicable Tables of Organization and Equipment (TO&E's) based on unit capabilities, training, personnel and equipment, and careful consideration of the unit's wartime mission. Requests to exceed authorized LOM must be similarly based and may be granted only per the provisions of reference (c).

(b) Metrics and Assessments. Maintenance performance is measured in terms of operational availability to meet military objectives. Total logistics chain response time, quality order fulfillment, logistics chain capacity, and total logistics chain expenses and asset utilization are supporting metrics to quantify and track elements of the maintenance cycle in order to optimize operational availability.

b. Tasks

(1) Deputy Commandant, Installations and Logistics (DC, I&L)

(a) Act as the Advocate for ground maintenance management oversight and policy per current DoD directives and guidance.

(b) Receive, review, prioritize and submit funding requirements for all levels of maintenance to the Deputy Commandant, Programs and Resources.

(c) Act as the Maintenance Management Functional Area Manager to coordinate review of enabling technologies requirements, modifications, and implementation plans.

(d) Provide Marine Corps maintenance capability status reports as required.

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(e) Conduct annual review of policy and guidance related to all levels of maintenance planning and execution to assess effectiveness.

(2) Deputy Commandant, Programs and Resources (DC, P&R)

(a) Ensure Program Objective Memorandum (POM) approved resources are distributed to efficiently execute all LOM activities.

(b) Coordinate with DC, I&L to ensure funds are programmed efficiently and economically to support all LOM for Marine Corps ground equipment.

(3) Deputy Commandant, Combat Development and Integration (DC, CD&I)

(a) Develop and implement internal command policies and procedures to facilitate the execution of this order.

(b) Provide support in the development and acquisition of the required maintenance capabilities which comply with this order.

(c) Coordinate with DC, I&L for the purpose of formulating POM funding requirements in support of maintenance activities.

(d) Serve as the MARFOR's maintenance representative and signatory authority pertaining to requirements throughout the systems' life-cycle.

(e) Ensure the Total Force Structure Management System reflects the required personnel and equipment to support all LOM operations.

(4) Commander, Marine Corps Systems Command (MCSC)

(a) Develop and implement internal command policies and procedures to facilitate the execution of this order.

(b) In conjunction with Marine Forces (MARFORs) and MCLC, develop, execute, document, assess, and refine maintenance support plans for commodities or programs from initial support planning to disposal. Tailor maintenance strategies to satisfy the performance and cost objectives of the MARFORs.

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(c) Translate and refine MARFOR product support requirements into achievable, contractible, and measurable weapon system cost and performance objectives.

(d) Maintain aggressive maintenance engineering strategy to develop technology insertion enhancements that improve weapon system reliability and maintainability while reducing maintenance and cost burden.

(e) Implement a tailored Configuration Management program in which the Program manager (PM) retains the authority and responsibilities of configuration control.

(f) Conduct business case analyses during acquisition or major system modification to determine the best course of action when developing the Maintenance Concept and TLCM Maintenance Plan.

(g) Prepare, present and defend Depot Level Source of Repair (DLSOR) recommendation to the TLCM Corporate Board as required by reference (d), prior to submission to Joint Depot Maintenance Activities Group (JDMAG), per reference (e).

(h) Develop and maintain program level life-cycle maintenance support documentation throughout the program's life-cycle.

(i) Conduct assessments to ensure systems operational effectiveness thresholds and objectives are being satisfied.

(j) Develop Maintenance Support Plans that are in accordance with Enterprise TLCM policies and objectives per references (a) and (f).

(k) Maintain technical data that allows for near real-time access to facilitate assessment of product support processes.

(l) Act as the Commandant of the Marine Corps (CMC) agent for maintenance engineering oversight and policy per current DoD directives and guidance.

(m) Establish, budget, and manage a corrosion prevention and control program for the Marine Corps.

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(n) Develop and submit to DC, I&L for approval, maintenance and logistics support plans for each new weapon system that comply with this order, the JDMAG DLSOR decision, as defined in reference (e), Title 10 provisions, and performance thresholds.

(o) Implement and manage a tailored Maintenance Planning Process in which the PM retains the authority and responsibility of maintaining an executable program level maintenance support plan.

(p) Serve as the single point to release safety of use and maintenance advisory messages per reference (g).

(q) Notify and advise DC, I&L prior to dead-lining fleets of equipment.

(r) Acquire, employ and maintain Automatic Information Technology (AIT) which enables and supports MCMP.

(5) Commanders, Marine Forces

(a) Develop and implement internal command policies and procedures to facilitate the execution of, and ensure compliance with, this Order.

(b) Ensure accurate data entry into maintenance-related automated information maintenance systems.

(c) Provide to MCSC recommended changes or updates to maintenance support plans and supporting documentation.

(d) Identify to DC, CD&I any changes in mission needs, operating environments, or financial resources, which may impact maintenance support strategy.

(e) Coordinate with DC, I&L for the purpose of formulating POM funding recommendations in support of maintenance activities to include all operator/crew, field, and secondary repairable requirements.

(f) Be prepared to aid in the capturing and reporting of data used in assessing metrics.

(g) Identify and prioritize sustainment-level maintenance requirements to MCLC.

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(h) Coordinate resolution of maintenance management issues with MCLC.

(6) Commanding General, Marine Corps Logistics Command (MCLC)

(a) Develop and implement internal command policies and procedures to facilitate the execution of this Order.

(b) Perform as the operational level Maintenance Management Advocate for the enterprise. In conjunction with MCSC, develop, document, assess, and refine maintenance support plans for commodities or programs from initial support planning to disposal. Tailor maintenance strategies to satisfy the performance and cost objectives of the MARFORs.

(c) Develop metrics/performance measurement standards to assess, improve and balance maintenance capability performance in support of mission accomplishment.

(d) Develop and publish annual sustainment-level maintenance rotation criteria in coordination with MARFORs, MCSC, and DC, CD&I.

(e) Chair the sustainment LOM requirements determination conference.

(f) Compute sustainment-level funding requirements.

(g) Articulate and defend sustainment maintenance POM submission to DC, I&L for submission to DC, P&R.

(h) Plan, budget, manage, and execute sustainment maintenance.

(i) Represent the Marine Corps as the Maintenance Inter-service Support Management Office to the JDMAG per reference (d) and (e).

(j) Serve as the focal point for implementing joint and inter-service depot maintenance policies within the Marine Corps.

(k) Receive, review and prioritize maintenance funding requirements to DC I&L, for sustainment-level maintenance.

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(l) Provide to MCSC recommended changes or updates to maintenance support plans and supporting documentation.

(m) Provide data and information in order to conduct supportability assessments, strategy development, planning, and business case analysis.

(n) Develop and publish sustainment LOM practices and procedures.

(o) Provide oversight for the execution of sustainment maintenance.

(p) Provide DC, I&L with all maintenance reports as required.

(7) MAGTF Commanders

(a) Ensure that maintenance receives full command attention.

(b) Provide standing operating procedures to direct unit efforts in support of the command maintenance program.

(c) Ensure training programs are established which address MCMP functional areas targeting operators, technicians, clerical and supervisory personnel.

(d) Ensure the execution of operator/crew and field LOM.

(8) Commanding Officer, Marine Corps Operational Test and Evaluation Activity

(a) Develop and implement internal command policies and procedures to facilitate the execution of this order.

(b) Develop and conduct operational test and evaluation on each new weapon system to ensure Logistics Support Plans are in compliance with performance requirements.

5. Administration and Logistics

a. Distribution statement A. Directives issued by the Commandant of the Marine Corps are published electronically and can be accessed on-line via the Marine Corps homepage at:
<http://www.usmc.mil>.

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b. Access to an on-line medium shall suffice for directives that can be obtained from the Internet, CD-ROM or other sources. For the purpose of inspection, electronic files shall suffice and need not be printed. For commands without access to the Internet, hard copy and CD-ROM versions of Marine Corps directives can be obtained through the Marine Corps Publications Distribution System.

6. Command and Signal

a. Command. This order is applicable to Marine Corps Total Force as outlined herein:

(1) This order applies to all reparable items appearing on the appropriate TO&E's, allowance lists and special allowances except as indicated below.

(2) This order does not apply to the following:

(a) Aviation material furnished by the Navy which is subject to policy prescribed by the Chief of Naval Operations.

(b) Medical and dental material which are subject to the maintenance policies of the Commander, Naval Medical Command.

(c) Musical instruments, per reference (h).

(d) Industrial plant equipment.

(e) Garrison mobile equipment, when specific procedures delineated in other manuals differ.

(f) Development equipment unless specified by MCSC.

(g) Equipment used in the Marine Corps prepositioning program.

(3) This policy applies to equipment maintained by the Marine Corps under approved Inter-service Support Agreements).

(4) Ground maintenance shall be managed as outlined in this order, other manuals in the 4790 series and as amplified by the directives from the CMC.

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516 (5) All commands accountable to this order will develop,
517 review, update and implement internal policies and procedures to
518 facilitate the execution of this order within 18 months of the
519 published date.

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521 b. Signal. This order is effective the date signed.

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R. S. KRAMLICH

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Deputy Commandant

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Installations and Logistics

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